

The Compleat
MODELLIST:

SHEWING

The true and exact way of Raising the
Model of any Ship or Vessel, small or great,
either in Proportion, or out of Proportion.

A L S O

The manner how to find the Length of
every Rope exactly.

A N D

TABLES which give the true Bigness of
every Rope in each Vessel.

Together with

The Weights of their Cables and Anchors.



*Performed by Thomas Miller of Great Yarmouth, Seaman,
and Master in the Art of Raising the Model.*

L O N D O N:

Printed for William Fisher near the Postern-Gate at
Tower-Hill, and Eliz. Hurlock at the Rose at the West End
of St. Pauls Church. 1676.

MODEL LIST

The first list of models is given in the
first column of the table.

The second list of models is given in the
second column of the table.

The third list of models is given in the
third column of the table.

The fourth list of models is given in the
fourth column of the table.

The fifth list of models is given in the
fifth column of the table.

The sixth list of models is given in the
sixth column of the table.

To the Right Worſhipful Major
William Burton,
ALDERMAN

Of the Town of great Yarmouth, Eſquire.

SIR,

I With you much Peace and Happineſs both in Soul and Body. Sir, I do very well know, and am ſenſible, that you are a great deal better knowing in this Art of Rigging than my weak Fancy will ever attain unto, which did invite me to preſent You with my weak Works: And knowing You to be one that was ever very free to accept of the well-meaning of any one; which did the more urge me to the performance of the ſame, not fearing but it would have a loving acceptance from Your Worthy ſelf to publiſh the ſame. So deſiring not to be tedious, but only to preſent my humble thankfulneſs for former Courteſies received from You, I ſhall ever remain,

Your Worſhips

Humble Servant

THOMAS MILLER.

To the Reader.



Gentle Reader, I do here present you with the Rare and Exact way of Rigging by the Model. But I must confess it is by the persuasions of some that have the true taste of it: for I did not intend to publish it as yet, but taking it into a serious consideration, I thought it not convenient any longer to obscure the reflection of such a true light, and as it is truth, so it is so plain and easie, that any one, although he could never before obtain to cut out a Ships Rigging, may by this way Rigg any Ship small or great, with a Weeks Practise or less. But if it were half so easie again as it is, which is almost impossible, yet I say, if it were so easie, it is possible a man may have the Book, and yet never come to Rigg a Ship, if he do not endeavour to get the use of the Book, which is a thing that may soon be obtained.

Likewise I could have shewed a great deal of curiosity in the Models, and have drawn them perfectly like a Ship: for, for matter of draughting, few or none go beyond me. But I find it not convenient; for at first I did do so, and some that I learned were so wise, they could almost have left the Goose to run after the Feather; that is, they were so affected with the draughts of the Ship, they minded that more than the substance that belonged to it. So I have now in every respect laid it down in a more plain manner, and as I find this Book to be accepted of, I shall present you with another in the future. So I conclude,

And this way of Rigging is most certain, & will hold true in all Vessels, small or great, but those Rules by way of Proportion, formerly printed, cannot hold, but will deceive those that trust to them.

And remain yours

in all my Practise,

THOMAS MILLER.

*Instructions for the raising of the Model
of any Ship or Vessel, small or great.*

When you go to raise the Model of any Ship or Vessel, you must in the first place know the Length of her Keel, and the Depth in her Hold, and the Breadth of her Beam.

First knowing the Length of the Keel, take the Length of the Keel off your Scale, and place it on your Paper that you intend to raise your Model on, making two pricks, one with one point of the Compasses, the other with the other; then draw a Line with your Pen or Pencil of Black-lead, as from *A* to *B*.

The length of
the Keel.

Then take the Depth of the Hold off from your Scale with your Compasses, and set one foot in the end of the Keel Line at *A*, and with the other make a prick at *D*; and likewise from *B* to *E*; then with your Ruler and Black-lead, or Pen, draw another Line parallel with the Keel, and that is the Line for the first Deck.

The depth of
the Hold from
the Keel to
the first Deck

Then for the Height between the first and second Deck, which appeareth in the Figure following, to be 6 foot and a half; then take 6 foot and a half off from your Scale; and let one foot of your Compasses at *D*, and with the other make a prick at *E*, and likewise from *C* to *F*. So must you do for the Height between the second and third Deck, and so for the Cabin, and Coch, and Round-house above that, and for the Fire-castle, all in the same manner, and then draw Lines from prick to prick.

The bright-
between the
first and se-
cond Deck.

Then for the Stem raise a perpendicular Line from the fore-part of the Keel to the second Deck; then take two thirds of the Depth in Hold, which in the figure is 12 foot; then set 1 foot of your Compasses at *B*, and with the other mark a prick at *G*: so likewise set 1 foot in the upper end of the line at *H*, and with the other foot make a prick at *I*; then draw a line from *G* to *I*, parallel to that from *B* to *H*, then

To raise the
Stem.

from

A Rule for Mastng and Yarding by Proportion.

from that outermost line draw the Stem to the Keel with what Sweep you please, running the top of your Stem 3 or 4 foot above the line, as it is in the Figure; then you may draw it double as you please, and the Keel likewise.

N.B.

And when you draw your Deck-lines, let your lower Deck-line run a foot or 2 beyond the end of the Keel aft, and so in like manner all your Decks, and then joyn them together something rounding, that the model may have a Rake aft, and shew Ship-shape. You must draw your Model and Scale together at the Keel, as you see in the Figure D, and note how many feet forever your Model is by the Keel, to make and divide the Scale into 15 equal parts, as is shewed, the 1st equal parts of the Scale divide into 20 feet, 6 of those feet are one fathom, and 12 of those feet are 2 fathom. And the other 13 divisions numbred by 10, 20, 30, &c. to 130, are 10 feet a piece. By the fathoms I measure the length of the Ropes, and also the Canvas for the Sails, and by the Scale of equal parts, I measure the Model, the larger you draw the Models of your Vessels or Ships, the better you may see to do your Work.

*The making
of the Scale.*

A Rule for Mastng and Yarding by Proportion; but for my part I make no use of it, because it will not hold.

*The Main-
mast.*

TH: Main-mast must be twice and one half the Length of the Beam.

*The Fore-
mast.*

The Fore-mast eight ninths of the Main-mast.

*Main-top-
mast and top-
gallant-mast.*

The Main-top-mast half the Main-mast, and the Main-top-gallant-mast half the Main-top-mast.

*The fore-top-
mast and top-
gallant-mast.*

The Fore-top-mast ha'f the Fore-mast, and the Fore-top-gallant-mast half the Fore-top-mast.

*The Bolt-
sprit.*

The Bolt-sprit the length of the Fore-mast.

*The Miffen-mast
and Miffen-top-
mast.*

The Miffen-mast the height of the Main-top-mast from the Quarter-deck, and the Miffen-top-mast half that.

*Main-yard and
Main-top-sail-
ard.*

The Main-yard 6 seven parts of the Main-mast, and the Main-top-sail-yard half that, and Top-gallant-yard half that.

The

The Use of the Model.

3

The Fore-yard eight ninths of the Main-yard, and the Fore-top-sail-yard half that, and Top-gallant-yard half that.

*Fore-yard
and Fore-top-
sail-yard.*

The Mizen-yard something shorter then the Fore-yard.

*Mizen-yard.
Sprit-sail-*

The Sprit-sail-yard and Cross-jack-yard both one, the Capst-jack-yard half the Mizen-yard.

*yard and
Cross-jack-
yard.*

The Sprit-sail-top-sail-yard half the Sprit-sail-yard, and the Sprit-sail-top-mast almost half the Sprit-sail-yard.

*Sprit-sail-
top-mast, and
top-sail-yard.*

Note, That all the small Yards are half the great Yards from Cleat to Nose.

Cleat, or from uncaring of the Top-sail to another, you may have what Yard-arms you please.

The Use of the Model.

IN these Figures you see two Yards, one hoisted, and the other lowered, or a Portlens, the Top-sail-yard also, one hoisted, and the other down upon the Cape; so must you make in all the Models you raise: The Yard a portlens gives the Length of Top-sail-shears, and Lifts, and Tye, or Jeers and Bunt-lines, and Leech-lines, or Halli-yards, measuring from the Hounds to the Deck.

Use.

The Yards hoisted gives the length of Clew-lines, Braces, and Clew-garnets, and Tackles, and Shears, and Bow-lines.

In the small ones is shewed the length of Shrowds and Top-sail Halliards with Braces, and Lifts, as in the Figure B.

In the Figure A is shewed how to give a near estimation how many yards of Canvas is in a main Course. When you come in any Ship or Vessel, and desire to know how many yards of Canvas is in the main or fore Course: First, you must know the depth of your Sail, and the breadth of the Canvas that the Sail is made of; then take off so much from the Scale as you see the Cloth is in breadth, and place so many Cloths in the Model on the Main or Fore-yard, the same depth that the Sail is on, as you see the main Course in this Figure: After you have so done, then take a fathom or two off from your Scale, and measure every Cloth up and down as you do the Ropes, and that gives you the number of yards.

Note.

Likewise

The Use of the Models

Likewise, here is shewed in this Figure the way how to place your Garner and Runner, and Sprit-sail-top-sail, Cranelines, and main-stay and fore-stay to find the true length of them.

In the figure C is shewed the way to find the number of yards that is in a main or fore-top-sail, the same way that you measure one Sail, you must measure all.

Observe.

But this you must observe, that you are to place your middle Cloth first in a top-sail, and from thence to each yards arm, that your goers at the Clew may fall out right.

So likewise to find the length of all Ropes.

Likewise it sheweth the length of main-top-sail-bow-lines; and so you must do to find the length of fore-top-sail-bow-lines: draw only a line from the top-sail yard-arm, to the main-yard-arm with your pen, or black-lead: Note from the further yard-arm, that you may take them at the largest extent, and so your Braces in like manner, it shews also the length of main-bow-line, and main-heel, and main-tack, and single Garner.

All this I could have performed in one model, but then it would have been so full, that you would not so well have understood it: but you may perform all in one figure, in starching three or four sheets of paper together, and then your model will be of a very good volume; for the bigger it is, the less error will be: and your best way to perform all in one model is, to draw your yards with black-lead only, especially the lowest yards, and then you may rub them out after you have measured out your Rigging, leaving only a little speck or spot at the end of each yards-arm, that you may the easier draw them again: if you have occasion, the two spots will give you the length of them again without any more trouble, and then it will not be so easie for any one to steal away the use of your model by, as he that hath an ingenious pate may do: and to prevent that, I seldom let any yards be seen, but only leave two little pricks to give me the length of them at any time, when occasion requires.

And then I draw them out again with black-lead, and measure out my Rigging, and write them in a piece of paper; and then with the crumbs of white bread, and a clean linnen cloth, I rub them out again, and so leave only the mast standing.

The fore-channel-bines

Then for the Channel-bines, if you see the Ship or Vessel, then you know the better where to place them; or if she be upon the stocks, that they be not brought too, he that is a Seaman will give a near guess where they should be, and if they be not placed just in the place where

where they should be it is no great matter. But rather endeavour to place them a little too low rather than too high.

Or two thirds of the Stay or Main-mast is a good Rule for your *Shrowds*; for your Stay must be as long as the Mast. *The length of Stay and Shrowds.*

Then for the placing of your Mast, there is very few but know the Main mast must stand in the middle, and to that end raise a Perpendicular Line from the middle of the Keel, making a little Step some two foot, or two foot and a half, as is in the Figure *D* at *K*; if your Step be not so high as it should be, or if it be a little higher then it should be, so it be not too much, it breaks no square, so long as you give a handsome allowance for the end of your *Shrowds* to turn up. *To place the Main-mast.*

Then after you have raised the Mast at his proper length, then allow for the Mast-head, and there place the Cross-trees; but if you measure your Mast, as it is allowed any Boat-swain to do, then you must mind the height of the Mast-head, and it is the surest way to know exactly the length of the Mast and Yards, and then you cannot work amiss: for I have measured very few Masts, but differ something, therefore I advise you to know the true length of your Mast and Yards.

Now the Fore-mast stands just upon the Breast-hook, and there you must place a thing imitating a step, of some 6 or 7 foot high, or 4 or 5 foot high, according as the Ship or Vessel is in bigness, or according as you see the Fore-mast will stand in proportion to the Main-mast, as your eye will give you that: and as you see it agrees with the Main-mast in height, so place your step as in the Model *D*, at *L*: and if it stand half a foot too high or too low, it is no great matter so long as the *Shrowds* are long enough. *To place the Fore-mast.*

Now in placing your Miffen-mast, your judgment must be better there, than about any Mast; because there is no just Rule to be given, but onely your eye must be your best rule. *To place the Miffen-mast.*

Therefore after you have raised your Model, and placed your Main-mast, then observe the Model well, and you may soon perceive where you shall place the Miffen-mast: and this observe, that if it becomes not the Model, it will not become the Ship; neither that nor no Mast nor Rigging about the Ship or Vessel; for after you have raised the true Model of any Ship or Vessel, it is just then, as if you were placing of the Masts in the Vessel it self; and after you have placed your Masts and Yards, you may measure out your Rigging as exactly as if you should measure from place to place on board the Ship or Vessel, with a Lead-line or Span-yard where every Rope should go. *Note*

*The Bolt-
Sprit.*

Now the Bolt-sprit you must place as you see in the Model *D*, at *H* *FC*, letting it run from six foot beyond the Fore-mast; this must be done in a Ship, but in other Vessels they are placed other ways: therefore you must place them as you see the Vessel requires.

*For the
heights be-
tween Decks.*

Now after you have the true length, and depth, and breadth of any Ship or Vessel given you by any one that you are sure knows, you may give a guess your self for the height between Decks, if she have two Decks, or the height in the Steridge, and great Cabin, and Round-house, if she have any, and likewise the Fore-castle: For my own part I never saw any Ship or Vessel since I began to practice this Art, but I could give a near estimation of her heights between Decks, and the like, without measuring, if I did but see the Ship or Vessel; but indeed if I went aboard, I could guess the better by my own height. And I would be sure to account them rather with the lowest then with the highest, that my Rigging should fall out long enough.

The Practise.

Your only way to be expert in raising of the Model, is to make a Book of large and good Paper Royal, and what Ship or Vessel soever you come in, you may by discourse with the Master or Carpenter come to know the true length, and depth, and breadth, and height of Masts, and length of Yards.

Or if she be a Merchant-ship, you may measure the depth in Hold, and breadth of the beam your self, when she is light, and her Ballast out; and likewise when she lies ashore, with a Carpenters Rule measure the Keel, and the Masts, and Yards likewise, when you have opportunity, and then raise the Model of her in your Book.

And likewise, if you be in any Ship that lay up in Winter, then you have an opportunity for your own Ship, or any Ship or Vessel that lies by you to get the Model of them; then place them in your Book of Models: then at any time if you fall with a Vessel to rig of any of them demensions, there you have the Model raised to your hand.

And likewise, when you are at home in the day-time, or in the evening, you may upon your slate or on paper, with your Black-lead Pencil, that you may rub out, as before is mentioned, raise an hundred models by supposition, which will bring your hand into the way of raising a Model complete and handsome.

And likewise, you will by that come to be expert and perfect in giving allowance for the sweep of masts-heads, and blocks, & dead-mens-eyes, and the like; that when you come to raise a Model by a true proportion, you may go through with your work without fear: for it will

come

come to you with ease enough, if you take but any pains at all to practice it, and not to do as a great many do, to buy Books and be a little fond of them at the present, and afterward lay them up, and never practice by them till they have occasion indeed to make use of them, and then they run so head-long upon the Work, that there is one gross error or other in their Work, and then to like themselves wholly, they impute the fault on the Book or on the Author of it, when the fault lies wholly in themselves for want of practice.

Therefore it is very good when you have opportunity, to be practising to raise a model, for you cannot be too perfect, because the Rigging of a Ship is a thing that cannot be done in secret, and you have many eyes upon you; and if you do not complete your Work, it makes such a blot in your Scutcheon, that it will scarce wear out in seven years time: for every one will be spending his verdict, as well he that knows nothing, as he that doth.

Therefore to prevent all dangers, and to stop all mouths, I advise you once more to be very diligent in practising your self, till you find that you are perfect in the work, which you will soon be by observing the Rules which I have before mentioned.

For the measuring of the Rigging you must have a Pencil of Black-lead on purpose for that use, then any Rope that you desire to measure; first, draw a line with the Black-lead, and then measure it, and put that out again, then your Model will be the clearer to find the rest of the Rigging.

As for Braces draw a line from the Yard-arm to the place where the Brace should go, you may draw it double if you please, as the Braces go; or you may draw but one single line, and so take a fathom off from your Scale, and where it goes double tell two fathom, and where it goes single tell but one.

And likewise for Top-sail-sheets, draw a line from the Top-sail-yard that is upon the Cape, as you see in the Model D, down to the Yards arm, that is a Portlines, as you see it is from the Fore-top-sail-yard to the Fore-yard; then take one fathom or two off your Scale, and measure from the Top-sail-yard to the Fore-yard upon the line that you have drawn, and then from the Fore-yards-arm into the Mast, and so down to the Fore-castle, and there you have the just length of your Top-sail-sheet, and it is left to your own discretion what stay you will allow: So likewise must you do for your Main-top-sail-sheet, and Fore-top-gallant-clew-lines, and Top sail-clew-lines, you must do as you

The Use of the Model.

you see in the Model, and so for any Ropes whatsoever; if you will have them go after your own way, draw a line with your black-lead where you will have it go, and so measure the length of it. And there you have it (as a man may say) to an inch. So I hope I shall not need to fill your head with any more stories; for here is directions enough for any one that hath any wit at all. And he that sees how to measure one Rope, may easily understand all the rest.

The Stays.

But this note, That when you measure the Stays, you must measure the Collar first double 3 or 4 fathom, according as you see the Model require it; for as it becomes the Model, so it will become the Ship or Vessel, and you must know that the Collar belongs to the length of the Stay.

The Penents of Braces.

But for the Penents of Braces, you must measure them first 3 fathom or 4 fathom, as you see it will become the Model, and there mark the Block, and so measure the length of the Brace from that.

So desiring you to mind well what is before mentioned, for I have cut it off as briefly as possible I may, that you might the easier get it by heart, which with small pains you may, and then you shall be the better able to discourse, and likewise to compleat your Work.

Here followeth the Bigness of Ropes for such Masts as follow.

The signs of the Rig-
ging for these Main-masts
and Main-top-masts; the
Fore-mast to these Masts
follow is in the next
Page.

| | Mast of 24 in. | Mast of 32 in. | Mast of 30 in. | Mast of 29 in. | Mast of 28 in. | Mast of 20 in. | Mast of 26 in. | Mast of 24 in. | Mast of 23 in. | Mast of 19 in. | Mast of 13 in. | Mast of 12 in. | |
|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| Penents of Tackles | 8½ | 8 | 7 | 6½ | 6 | 5½ | 5 | 7 | 6 | 5 | 4 | 4 | Note, These |
| Runners. | 6 | 5½ | 5 | 5 | 4½ | 4 | 3½ | 5 | 5 | 4½ | 3½ | 3½ | Bun-ines |
| Falls of the Tackles | 4 | 4 | 3½ | 3½ | 3 | 3 | 3 | 3½ | 3½ | 2½ | 2½ | 2½ | are in signs |
| Shrowds | 8½ | 8 | 7½ | 7 | 6½ | 5 | 5 | 7 | 6 | 5 | 4 | 4 | as follows |
| Laniards | 4½ | 4 | 4 | 3½ | 3 | 3 | 3 | 4 | 3½ | 3½ | 2½ | 2½ | 3½ 3½ 3 2 |
| Switters | 8½ | 8 | 7½ | 7 | 6½ | 5 | 5 | 5½ | 5 | 4½ | 3½ | 3½ | 2 2 2 2 |
| Laniards | 4½ | 4 | 4 | 3½ | 3½ | 3 | 2½ | 3½ | 3 | 3 | 2½ | 2½ | 2 2 2 1 |
| Stay | 17 | 16 | 15 | 14½ | 14 | 10 | 8 | 12 | 11½ | 6 | 6 | 6 | |
| Collar at the stem | 16 | 15 | 13 | 12 | 11 | 9 | 8 | 10 | 10 | 8 | 6 | 6 | |
| Laniard of the stay | 6 | 5½ | 5½ | 5 | 4 | 4 | 3½ | 4 | 4 | 3½ | 2½ | 3 | |
| Lifts | 4½ | 4 | 3½ | 3½ | 3 | 3 | 2½ | 3 | 3 | 2½ | 2½ | 2 | |
| Tacks | 9½ | 9 | 8½ | 8 | 6½ | 6 | 5 | 6½ | 6 | 5½ | 4 | 4 | |
| Shears | 6½ | 6½ | 6 | 6 | 5 | 4½ | 4 | 4½ | 4½ | 3½ | 2½ | 3 | |
| Bow-lines | 5½ | 5 | 4½ | 4½ | 4 | 4 | 3 | 3 | 3 | 2½ | 2½ | 2½ | |
| Bridles | 4½ | 4½ | 4 | 4 | 3½ | 3½ | 3 | 3 | 3 | 2½ | 2 | 2 | |
| Penents fore-braces | 4 | 4 | 3½ | 3½ | 3 | 3 | 2½ | 2½ | 2½ | 2 | 1½ | 2 | |
| Braces | 3 | 3 | 3 | 3 | 2½ | 2½ | 2 | 3 | 2½ | 2½ | 1½ | 2 | Note, The |
| Clew-garnets | 4 | 3½ | 3 | 3 | 2½ | 2½ | 2 | 3 | 2½ | 2½ | 1½ | 2 | Ships that |
| Jeers | 8½ | 8 | 7 | 6 | 5½ | 5 | | 6 | 4½ | 4 | | | have no for |
| Parrel-rope | 6 | 6 | 5 | 5 | 4½ | 4 | 3 | 4½ | 4 | 3½ | 3 | 3 | their Tye |
| Breast-rope | 8 | 7 | 6 | 6 | 5 | | | | | | | | 4 inches, |
| Runner of Mast-lines | 2½ | 2½ | 2½ | 2½ | 2 | 2 | | 2½ | 2 | 2 | 1½ | | their Hall |
| Fall of Mast-lines | 3 | 2½ | 2½ | 2 | 2 | 2 | | 6 | 5½ | 5 | 5 | 4 | ards is 2½ |
| Penent of the Garner | 8½ | 8 | 7½ | 7 | 6 | 5 | 4½ | 5 | 4½ | 3½ | 3 | 3 | |
| Tye | 6 | 5½ | 5 | 5 | 4½ | 4 | 3½ | 3½ | 3½ | 3 | 3 | 3 | |
| Fall of the garner | 4½ | 4 | 4 | 4 | 3½ | 3½ | 3 | 3 | 3 | 2½ | 2 | 2 | |

Main-top-mast Rigging

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------------|----|----|----|----|----|----|----|----|----|----|----|----|
| Penent of Tackles | 5 | 5 | 4½ | 4 | 3½ | 3 | 2½ | 3½ | 3½ | 2½ | | 2 |
| Falls of Tackles | 2½ | 2½ | 2½ | 2½ | 2 | 2 | 1½ | 2 | 2 | 1½ | | 1½ |
| Shrowds | 5 | 5 | 4½ | 4 | 4 | 3 | 3 | 4 | 3½ | 3 | 2½ | 2½ |
| Laniards | 2½ | 2½ | 2½ | 2 | 2 | 2 | 1½ | 2 | 2 | 1½ | 1 | 1 |
| Back-stays | 5 | 5 | 5 | 4 | 3½ | 3 | 2½ | 4 | 4 | 3½ | 2 | 2½ |
| Laniards | 3 | 3 | 3 | 2½ | 2½ | 2 | 2 | 2½ | 2 | 1½ | 1 | 1 |
| Stay | 8 | 7 | 6 | 5 | 5 | 4½ | 4 | 5 | 4½ | 3½ | 3 | 2½ |
| Laniard | 4 | 4 | 3½ | 3½ | 3 | 3 | 2½ | 3 | 2½ | 2 | 1½ | 2 |
| Lifts | 3½ | 3 | 2½ | 2½ | 2 | 2 | 1½ | 2 | 2 | 1½ | 1 | 1 |

The bigness of Fore-rigging.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|
| Penent of Tackles | 3 | 7 $\frac{1}{2}$ | 7 | 6 | 5 | 5 | 5 | 6 $\frac{1}{2}$ | 5 $\frac{1}{2}$ | 4 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 6 |
| Runners of Tackles | 5 $\frac{1}{2}$ | 5 | 5 | 5 | 4 | 4 | 4 | 5 | 5 | 4 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ |
| The Falls | 4 | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 3 | 3 | 3 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ | 2 | |
| Shrowds | 8 | 7 $\frac{1}{2}$ | 6 $\frac{1}{2}$ | 6 | 5 $\frac{1}{2}$ | 5 | 4 $\frac{1}{2}$ | 6 | 5 $\frac{1}{2}$ | 4 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ |
| Laniards | 4 | 4 | 4 | 4 | 3 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 2 | 2 |
| Switters | 3 | 7 $\frac{1}{2}$ | 7 | 6 | 5 $\frac{1}{2}$ | 5 | 4 $\frac{1}{2}$ | | | | | |
| Laniards | 4 | 4 | 4 | 4 | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | | | | | |
| Stay | 15 | 13 | 12 | 11 | 9 | 7 | 6 $\frac{1}{2}$ | 10 $\frac{1}{2}$ | 8 $\frac{1}{2}$ | 7 $\frac{1}{2}$ | 5 | 4 |
| Laniard | 5 | 5 | 5 | 4 $\frac{1}{2}$ | 4 | 3 $\frac{1}{2}$ | 3 | 4 | 3 $\frac{1}{2}$ | 3 | 2 | 2 |
| Tye | 8 | 7 $\frac{1}{2}$ | 7 | 7 | 6 | 6 | 5 | 5 $\frac{1}{2}$ | 5 | 5 | 3 $\frac{1}{2}$ | 4 |
| Halliards | 6 | 6 | 6 | 5 | 4 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 3 | 3 $\frac{1}{2}$ | 3 | 2 | 2 |
| Jeers | 6 $\frac{1}{2}$ | 6 | 6 | 6 | 4 | 4 | 5 $\frac{1}{2}$ | | | | | |
| Lifts | 4 | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 3 | 2 $\frac{1}{2}$ | 2 | 3 | 3 | 2 $\frac{1}{2}$ | | 2 |
| Parrel-ropes | 5 | 5 | 4 $\frac{1}{2}$ | 4 $\frac{1}{2}$ | 4 | 4 | 3 | 3 | 3 | 2 $\frac{1}{2}$ | 2 | 2 $\frac{1}{2}$ |
| Breast-ropes | 8 | 7 | 6 $\frac{1}{2}$ | 6 | 5 | | | | | | | |
| Sheets | 6 | 6 | 5 | 5 | 4 $\frac{1}{2}$ | 4 | 3 $\frac{1}{2}$ | 4 $\frac{1}{2}$ | 4 | 3 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ |
| Tacks | 8 $\frac{1}{2}$ | 8 | 7 | 7 | 6 | 5 | 4 $\frac{1}{2}$ | 6 | 6 | 5 | 5 | 3 $\frac{1}{2}$ |
| Bow-lines | 4 $\frac{1}{2}$ | 4 $\frac{1}{2}$ | 4 | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 3 | 3 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ | 2 | 2 $\frac{1}{2}$ |
| Bridles | 4 $\frac{1}{2}$ | 4 | 3 $\frac{1}{2}$ | 3 | 3 | 3 | 2 | 3 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ | 2 | 2 |
| Penents of brases | 4 | 3 $\frac{1}{2}$ | 3 | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 3 | 3 | 2 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 2 |
| Brases | 3 | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | 2 | 2 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ |
| Clew-garnets | 3 $\frac{1}{2}$ | 3 | 3 | 2 $\frac{1}{2}$ | 2 | 2 | 2 | 3 | 2 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ |
| Bunt-lines | 3 | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | 2 | 2 | 2 | 2 | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ |
| Mart-line runners | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | | | | | | | |
| Mart-lines | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | 2 $\frac{1}{2}$ | 2 | 2 | 1 $\frac{1}{2}$ | | | |

The bigness of the Fore-top-sail-rigging.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Penent of Tackles | 4 $\frac{1}{2}$ | 4 | 3 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ | | |
| Falls to them | 2 $\frac{1}{2}$ | 2 | 2 | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 2 | 2 | 2 | 1 $\frac{1}{2}$ | | |
| Shrowds | 4 $\frac{1}{2}$ | 4 | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 3 | 2 $\frac{1}{2}$ | 4 | 3 | 3 | 2 | 2 |
| Laniards | 2 | 2 | 2 | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 2 | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 | 1 |
| Portoks | 5 | 4 $\frac{1}{2}$ | 4 $\frac{1}{2}$ | 4 | 3 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ | 3 | 3 | 2 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | |
| Stay | 5 | 5 | 5 | 4 $\frac{1}{2}$ | 4 | 3 | 3 | 4 $\frac{1}{2}$ | 4 | 3 $\frac{1}{2}$ | 2 | 2 $\frac{1}{2}$ |
| Penent of the Laniard | 4 | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | | | | | |
| Fall of the Laniard | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ | 2 | 2 | 2 | 3 | 2 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ |
| Tye | 7 | 7 | 6 $\frac{1}{2}$ | 6 $\frac{1}{2}$ | 5 $\frac{1}{2}$ | 5 | 5 | 6 | 5 | 3 $\frac{1}{2}$ | 2 | |
| Runner | 5 | 5 | 4 $\frac{1}{2}$ | 4 $\frac{1}{2}$ | 4 | 4 | 4 | 4 $\frac{1}{2}$ | 4 | 3 $\frac{1}{2}$ | | |
| Halliards | 5 | 4 $\frac{1}{2}$ | 4 | 4 | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | |
| Bow-lines | 4 | 3 $\frac{1}{2}$ | 3 | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | |
| Bridles | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 3 | 2 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | |
| Clew-lines | 4 $\frac{1}{2}$ | 4 | 4 | 3 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ | 2 | 3 | 2 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | |
| parrel-rope | 4 | 4 | 4 | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 2 | 3 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ | 2 | |

*The bigness of the Bolt
sprit-rigging.*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | Mast of 34 inch. | Mast of 32 inch. | Mast of 30 inch. | Mast of 29 inch. | Mast of 28 inch. | Mast of 26 inch. | Mast of 24 inch. | Mast of 23 inch. | Mast of 19 inch. | Mast of 17 inch. | Mast of 15 inch. | Mast of 13 inch. |
| Penents of theats | 6 | 6 | 5 $\frac{1}{2}$ | 5 $\frac{1}{2}$ | 4 $\frac{1}{2}$ | 4 | 3 $\frac{1}{2}$ | 5 | 4 $\frac{1}{2}$ | 4 | 3 | 2 $\frac{1}{2}$ |
| Shears | 4 $\frac{1}{2}$ | 4 $\frac{1}{2}$ | 4 | 3 | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 4 | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ |
| Clew-lines | 3 | 3 | 3 | 2 $\frac{1}{2}$ | 2 | 2 | 2 | 3 | 2 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ |
| Garners | 3 $\frac{1}{2}$ | 3 | 3 | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | 3 | 2 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ |
| Penents of Brases | 4 | 4 | 3 | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 3 | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ |
| Brases | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | 2 | 2 | 2 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ |
| Halliards | 4 $\frac{1}{2}$ | 4 | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ | 3 $\frac{1}{2}$ | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 |
| Tye | 7 | 6 | 6 | 6 | 5 | 4 $\frac{1}{2}$ | 4 | 6 | 5 | 5 | 4 $\frac{1}{2}$ | 2 |
| Bunt-lines | 3 | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | 2 | 1 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | 2 |
| Horle | 6 | 6 | 5 $\frac{1}{2}$ | 5 $\frac{1}{2}$ | 5 | 4 | 3 | 3 | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 |
| Lifts | 4 | 3 | 3 | 3 | 2 $\frac{1}{2}$ | 2 | 2 | 3 | 2 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ |

*The bigness of the Sprit-
fall-top-rigging.*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------|
| | inch. | inch. | inch. | inch. | inch. | inch. | inch. | inch. | inch. | inch. | inch. | inch. |
| Shrowds | 3 | 3 | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | 2 | 1 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | 1 |
| Laniards | 2 | 1 $\frac{1}{4}$ | 1 $\frac{1}{4}$ | 1 $\frac{1}{2}$ | 1 | 1 | 1 | 2 | 1 $\frac{1}{2}$ | 1 | 1 | 1 |
| Penents of Brases | 2 $\frac{1}{2}$ | 2 $\frac{1}{2}$ | 2 | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 2 | 1 $\frac{1}{4}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 |
| Brases | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 | 1 | 1 $\frac{1}{2}$ | 1 | 1 | 1 | 1 |
| Tye | 3 | 3 | 3 | 2 $\frac{1}{2}$ | 2 | 2 | 1 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 |
| Halliards | 2 | 2 | 2 | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 | 1 |
| Clew-lines | 2 $\frac{1}{2}$ | 2 | 2 | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 | 1 |
| Penents of Tackles | 3 | 3 | 2 $\frac{1}{2}$ | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | | | 1 $\frac{1}{4}$ | |
| Falls to them | 2 | 2 | 1 $\frac{1}{4}$ | 1 $\frac{1}{2}$ | 1 | 1 | 1 | | | | | |
| Lifts | 2 | 2 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 | 1 | 1 |
| Puttocks | 3 | 3 | 2 $\frac{1}{2}$ | 2 | 2 | 2 | 2 | 2 $\frac{1}{2}$ | 2 | 2 | 2 | 1 |
| Parrel-ropes | 2 | 2 | 1 $\frac{1}{4}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 | 1 $\frac{1}{4}$ | 1 $\frac{1}{2}$ | 1 $\frac{1}{2}$ | 1 | 1 |

The bigness of Miffen-rigging.

The Miffen-maft.

Penents of Tackles

Runners

Falls of Tackles

Shrowds

Laniards

Tye

Halliards

Sray

Laniards

Shear

Jeere

Trufs

Bow-lines

Brayles

Parrel-rope

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|--------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | <i>Maff of 34 inch.</i> | <i>Maff of 32 inch.</i> | <i>Maff of 30 inch.</i> | <i>Maff of 29 inch.</i> | <i>Maff of 28 inch.</i> | <i>Maff of 26 inch.</i> | <i>Maff of 26 inch.</i> | <i>Maff of 24 inch.</i> | <i>Maff of 23 inch.</i> | <i>Maff of 19 inch.</i> | <i>Maff of 12 inch.</i> | <i>Maff of 12 inch.</i> |
| | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> |
| Penents of Tackles | 5½ | 5 | 4½ | 4 | | | | | | | | |
| Runners | 4 | 3½ | 3½ | 3 | | | | | | | | |
| Falls of Tackles | 3 | 3 | 2½ | 2½ | | | | | | | | |
| Shrowds | 5½ | 5 | 4½ | 4½ | 3½ | 3 | 2½ | 4 | 4 | 3 | 2 | 2½ |
| Laniards | 3 | 2½ | 2½ | 2½ | 2 | 2 | 1½ | 2 | 2 | 1½ | 1½ | ½ |
| Tye | 7 | 6½ | 6 | 5 | 5 | 4½ | 4 | | | | | |
| Halliards | 5 | 4½ | 3½ | 3 | 2½ | 2½ | 2 | 3½ | 3 | 2½ | 2 | |
| Sray | 6 | 5 | 4 | 3½ | 3½ | 3½ | 3 | 4 | 4 | 3 | 2½ | 2½ |
| Laniards | 3½ | 3 | 2½ | 2½ | 2 | 2 | 1½ | 2½ | 2 | 1½ | 1 | 1½ |
| Shear | 4 | 3½ | 3 | 2½ | 2½ | 2½ | 2 | 3 | 3 | 2½ | 2 | 1½ |
| Jeere | 5½ | 5 | 4 | 3½ | 3½ | | | | | | | |
| Trufs | 3½ | 3 | 2½ | 2½ | 2 | 2 | 1½ | 2½ | 2 | 2 | 1½ | |
| Bow-lines | 4 | 3 | 2 | 2 | 2 | 2 | 1½ | 2½ | 2 | 1½ | 1½ | 1½ |
| Brayles | 2½ | 2 | 2 | 2 | 2 | 2 | 1½ | 2 | 1½ | 1½ | 1 | 1 |
| Parrel-rope | 5½ | 5 | 4 | 3 | 3 | | | | | | | |

The Crofs-Jack,

Lifts

Brases

Penents

Halliards

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> | <i>inch.</i> |
| Lifts | 4 | 3½ | 2½ | 2½ | 2 | 1½ | 1 | 2½ | 2½ | 2 | 1½ | 1 |
| Brases | 2½ | 2½ | 2 | 2 | 1½ | 1 | 1 | 2 | 1½ | 1½ | 1 | 1 |
| Penents | 3½ | 3 | 2½ | 2½ | 2 | 1½ | 1½ | 2 | 1½ | 1½ | 1 | 1 |
| Halliards | 4 | 3½ | 3 | 3 | 2½ | 2 | 1½ | 2 | 1½ | 1½ | 1½ | 1½ |

Signs of Misfitting.

[illegible]

The thickness of the Main-top-gallant-rigging.

| | Mast of 34 inch. | | Mast of 32 inch. | | Mast of 30 inch. | | Mast of 29 inch. | | Mast of 28 inch. | | Mast of 26 inch. | | Mast of 24 inch. | | Mast of 23 inch. | | Mast of 19 inch. | | Mast of 17 inch. | | Mast of 13 inch. | |
|------------------------|------------------|----|------------------|----|------------------|----|------------------|----|------------------|----|------------------|----|------------------|----|------------------|----|------------------|----|------------------|----|------------------|--|
| | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 10 | 11 | 12 | 13 | 14 | |
| Pennants of Tackles | 3 | 3 | 2½ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 1½ | |
| Falls of Tackles | 2½ | 2 | 3¼ | 2½ | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | | | 1½ | |
| Shrouds | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | | | 1½ | |
| Laniards | 1¼ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | | | | | 1½ | |
| Portocks | 3½ | 3 | 2½ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 1½ | |
| Pennants of Back-stays | 3 | 3 | 2½ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 1½ | |
| Falls to them | 2 | 2 | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | | | | | 1½ | |
| The Stay | 3 | 3 | 3 | 2½ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 1½ | |
| Laniard | 2½ | 2½ | 2½ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 1½ | |
| Braces | 2 | 1½ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | | | | | 1½ | |
| Pennant of Braces | 2½ | 2½ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 1½ | |
| Bow-lines | 2½ | 2 | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | | | | | 1½ | |
| Bridles | 2 | 1½ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ | | | | | 1½ | |
| Top-rope | 4½ | 4 | 3½ | 2½ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 1½ | |
| Parrel-rope | 2½ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 1½ | |
| Tye | 3 | 3 | 3 | 2½ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 1½ | |
| Halliards | 3 | 2½ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 1½ | |
| Lifts | 2½ | 2 | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | | | | | 1½ | |
| Flag-staff-stay | 2½ | 2 | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | | | | | 1½ | |
| Clew-lines | 2 | 2 | 1¼ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | 1½ | |

The Strength of the
Fore-top gallant-
rigging.

Tye
Halliards
Bow-lines
Bridles
Stay
Shrouds
Laniards
Parrel-rope
Clew-lines
Braces
Lifts
Top-rope
Penent of the Tackles
Falls
Pumucks
Back-stays

| | Mast of 34 inch. | Mast of 32 inch. | Mast of 30 inch. | Mast of 29 inch. | Mast of 28 inch. | Mast of 26 inch. | Mast of 24 inch. | Mast of 23 inch. | Mast of 22 inch. | Mast of 21 inch. |
|-----------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Tye | 2 1/2 | 2 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 2 1/2 | 2 1/2 | 1 1/2 |
| Halliards | 2 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 |
| Bow-lines | 2 | 2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 |
| Bridles | 1 1/4 | 1 1/4 | 1 1/4 | 1 1/4 | 1 1/4 | 1 1/4 | 1 1/4 | 1 1/4 | 1 1/4 | 1 1/4 |
| Stay | 2 1/2 | 2 1/2 | 2 | 2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 |
| Shrouds | 2 1/2 | 2 1/2 | 2 | 2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 |
| Laniards | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 |
| Parrel-rope | 2 | 2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 |
| Clew-lines | 2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 |
| Braces | 2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 |
| Lifts | 2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 |
| Top-rope | 3 1/2 | 3 | 3 | 2 1/2 | | | | | | |
| Penent of the Tackles | 3 | 2 1/2 | 1 1/2 | | | | | | | |
| Falls | 2 1/2 | 2 | 2 | | | | | | | |
| Pumucks | 3 | 2 1/2 | 2 1/2 | 2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 | 1 1/2 |
| Back-stays | 2 1/2 | 2 1/2 | 2 | | | | | | | |

C 2

Shear

| | | | | | | | | |
|---------------|--------|---|---------------|--------|---|---------------|--------|---|
| Sheat-anchor | 60 0 0 | 3 | Sheat-anchor | 29 0 0 | 7 | Sheat-anchor | 18 0 0 | 9 |
| Best-bower | 56 0 0 | 1 | Best-bower | 25 0 0 | 7 | Best-bower | 17 0 0 | 9 |
| Small-bower | 55 0 0 | 0 | Small-bower | 21 3 0 | 0 | Small-bower | 16 0 2 | 0 |
| Stream-anchor | 25 0 0 | 0 | Stream-anchor | 9 0 0 | 0 | Stream-anchor | 4 3 0 | 0 |
| Kedg-anchor | 7 1 0 | 2 | Kedg-anchor | 2 2 7 | 7 | Kedg-anchor | 2 3 0 | 0 |

| | | | | | | | | |
|---------------|--------|---|---------------|--------|---|---------------|--------|---|
| Sheat-anchor | 43 0 0 | 0 | Sheat-anchor | 28 0 0 | 0 | Sheat-anchor | 11 0 0 | 0 |
| Best-bower | 40 0 0 | 5 | Best-bower | 27 0 0 | 0 | Best-bower | 10 0 0 | 0 |
| Small-bower | 39 0 0 | 3 | Small-bower | 16 0 0 | 0 | Small-bower | 9 0 2 | 0 |
| Stream-anchor | 26 0 0 | 2 | Stream-anchor | 4 3 4 | 4 | Stream-anchor | 4 3 4 | 4 |
| Kedg-anchor | 7 2 0 | 0 | Kedg-anchor | 3 3 0 | 0 | Kedg-anchor | 3 3 0 | 0 |

| | | | | | | | | |
|---------------|--------|---|---------------|--------|---|---------------|-------|---|
| Sheat-anchor | 35 3 3 | 2 | Sheat-anchor | 21 0 2 | 2 | Sheat-anchor | 7 0 0 | 0 |
| Best-bower | 34 0 0 | 3 | Best-bower | 11 0 0 | 0 | Best-bower | 6 0 0 | 0 |
| Small-bower | 31 2 2 | 7 | Small-bower | 9 5 0 | 0 | Small-bower | 5 1 0 | 0 |
| Stream-anchor | 11 3 2 | 5 | Stream-anchor | 5 0 2 | 2 | Stream-anchor | 5 0 2 | 2 |
| Kedg-anchor | 4 0 0 | 2 | Kedg-anchor | 2 0 0 | 0 | Kedg-anchor | 2 0 0 | 0 |

| | | | | | | | | |
|---------------|--------|---|---------------|--------|---|---------------|-------|---|
| Sheat-anchor | 33 0 0 | 0 | Sheat-anchor | 27 0 0 | 0 | Sheat-anchor | 5 0 2 | 2 |
| Best-bower | 30 0 0 | 0 | Best-bower | 23 3 5 | 5 | Best-bower | 4 0 0 | 0 |
| Small-bower | 27 0 3 | 3 | Small-bower | 23 0 0 | 0 | Small-bower | 3 2 3 | 3 |
| Stream-anchor | 11 0 0 | 0 | Stream-anchor | 5 0 0 | 0 | Stream-anchor | 5 0 0 | 0 |
| Kedg-anchor | 3 1 0 | 0 | Kedg-anchor | 3 1 0 | 0 | Kedg-anchor | 3 1 0 | 0 |

Cables

| Inches | | Inches | | Inches | |
|-----------|----|-----------|----|-----------|----|
| Cables of | 21 | Cables of | 20 | Cables of | 17 |
| Cables of | 20 | Cables of | 19 | Cables of | 16 |
| Cables of | 14 | Cables of | 13 | Cables of | 12 |
| Cables of | 10 | Cables of | 9 | Cables of | 8 |
| Cables of | 9 | Cables of | 8 | | |
| 11 0 22 | | | | | |
| 7 4 22 | | | | 6 | |
| Cables of | 17 | Cables of | 15 | Cables of | 14 |
| Cables of | 16 | Cables of | 14 | Cables of | 13 |
| Cables of | 11 | Cables of | 9 | | |
| 1 2 22 | | | | | |
| 0 7 22 | | | | 9 | |
| Cables of | 10 | Cables of | 16 | Cables of | 14 |
| Cables of | 9 | Cables of | 15 | Cables of | 13 |
| 7 2 13 | | Cables of | 10 | Cables of | 12 |
| 21 2 0 | | | | Cables of | 11 |
| 0 1 7 | | | | Cables of | 10 |
| 21 2 2 | | | | Cables of | 9 |
| 0 10 3 | | | | Cables of | 8 |
| | | | | | |
| Cables of | 12 | Cables of | 8 | Cables of | 8 |
| Cables of | 11 | Cables of | 7 | Cables of | 7 |
| na | | Cables of | 6 | Cables of | 6 |

Weights

Weight of Cables.

| Inches | doth weigh | C. | lb. | oz. |
|---------------|------------|----|-----|-----|
| A Cable of 21 | doth weigh | 90 | 10 | 0 |
| A Cable of 20 | doth weigh | 80 | 10 | 0 |
| A Cable of 19 | doth weigh | 70 | 10 | 0 |
| A Cable of 18 | doth weigh | 66 | 10 | 0 |
| A Cable of 17 | doth weigh | 59 | 0 | 11 |
| A Cable of 16 | doth weigh | 53 | 2 | 7 |
| A Cable of 15 | doth weigh | 46 | 2 | 7 |
| A Cable of 14 | doth weigh | 40 | 2 | 0 |
| A Cable of 13 | doth weigh | 34 | 2 | 10 |
| A Cable of 12 | doth weigh | 29 | 2 | 1 |
| A Cable of 11 | doth weigh | 25 | 2 | 6 |
| A Cable of 10 | doth weigh | 20 | 3 | 4 |
| A Cable of 9 | doth weigh | 17 | 3 | 13 |
| A Cable of 8 | doth weigh | 13 | 3 | 7 |
| A Cable of 7 | doth weigh | 9 | 3 | 12 |
| A Cable of 6 | doth weigh | 7 | 1 | 0 |
| A Cable of 5 | doth weigh | 5 | 3 | 12 |
| A Cable of 4 | doth weigh | 3 | 3 | 0 |

| | | | |
|---|-----------|----|-----------|
| 8 | Cables of | 12 | Cables of |
| 7 | Cables of | 11 | Cables of |
| 6 | Cables of | | |

An

An Index.

IN the first Page is shewed how to raise the Model of any Ship or Vessel, small or great.

In the second Page is shewed a Rule for Mastting and Yarding.

From the third to the eight is shewed the Use of the Model.

In the first Column of the ninth Page, where the figure of 1 stands on the top, is shewed the bigness of Rigging that is required in a ship, that the Main-mast is 34 inches through.

In the second Column is shewed the bigness of the Rigging the Main-mast is 32 inches through.

In the third Column is shewed the bigness of Rigging for a Main-mast of 30 inches through.

In the fourth Column is shewed the bigness of Rigging for a Main-mast of 29 inches through.

In the fifth Column is shewed the bigness of Rigging for a Main-mast of 28 inches through.

In the sixth Column is shewed the bigness of Rigging for a Main-mast of 26 inches through.

In the seventh Column is shewed the bigness of Rigging for a Main-mast of 26 inches through.

In the eighth Column is shewed the bigness of Rigging for a Main-mast of 24 inches through.

In the ninth Column is shewed the bigness of Rigging for the Main-mast of 23 inches through.

In the tenth Column is shewed the bigness of Rigging for a Main-mast of 19 inches through.

In the eleventh Column is shewed the bigness of Rigging for a Main-mast of 32 inches through.

In the twelfth Column is shewed the bigness of Rigging for a Main-mast of 12 inches.

In the tenth Page is shewed in the 12 Columns the bigness of Rigging for the Fore-mast, answerable for the Main-mast, and Main-top-mast in the ninth page.

In the 12 Columns of the eleventh Page is shewed the bigness of Sprit-sail, and Sprit-sail-top-mast Rigging for such ships.

In the 12 Columns of the twelfth Page is shewed the bigness of Mizen-mast, and Cross-jack Rigging.

In

An Index.

In the 13 Columns of the 3 Page is shewed the bigness of Misen-top-mast Rigging,

In the 12 Columns of the fourteenth Page is shewed the bigness of Main-top-gallant Rigging.

In the 12 Columns of the fifteenth page, is shewed the bigness of fore-top-gallant rigging.

In the 16 Page is shewed by the 12 figures the Anchors for such Ships that are to be Masted and Rigged.

In the 17 Page is shewed by the 12 figures the Cables for such Anchors.

In the 18 Page is shewed the Weight of Cables.

From a Cable of 21 inches to a four-inch Rope.

In the 19 Page is shewed the Model of a great Ship, of an hundred and 25 foot by the Keel, and likewise the making of the Scale.

In the 20 Page is shewed the 3 small Models.

Likewise note, That on the top of every Column in the 9, 10, 11, 12, 13, 14, and 15 Pages, there is a figure set, as thus, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, which is to direct you aright to complete a whole Ships Rigging in bigness.

And as for the Length, the Model gives you that so true, that you need not fear, but that your Ship will be well Rigged.

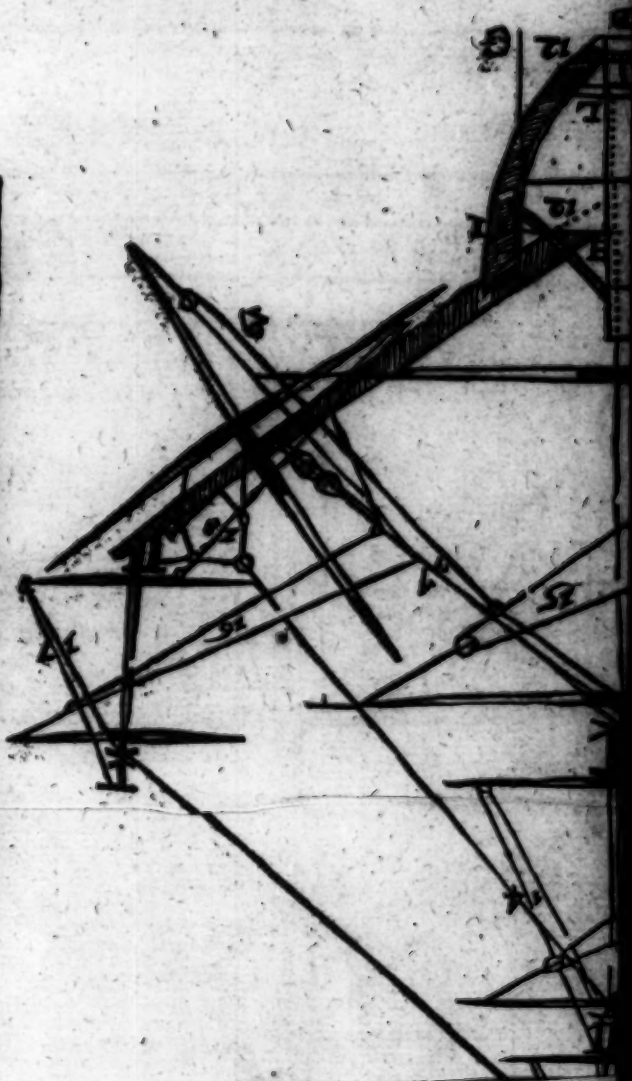
So leaving you to your Practice, and wishing you a good Proceeding as well for your Good as my Credit, I conclude, and rest

Yours

T.M.

FINIS.

The Figure of the SCALE.





D

A Table of the Names of the Ropes.

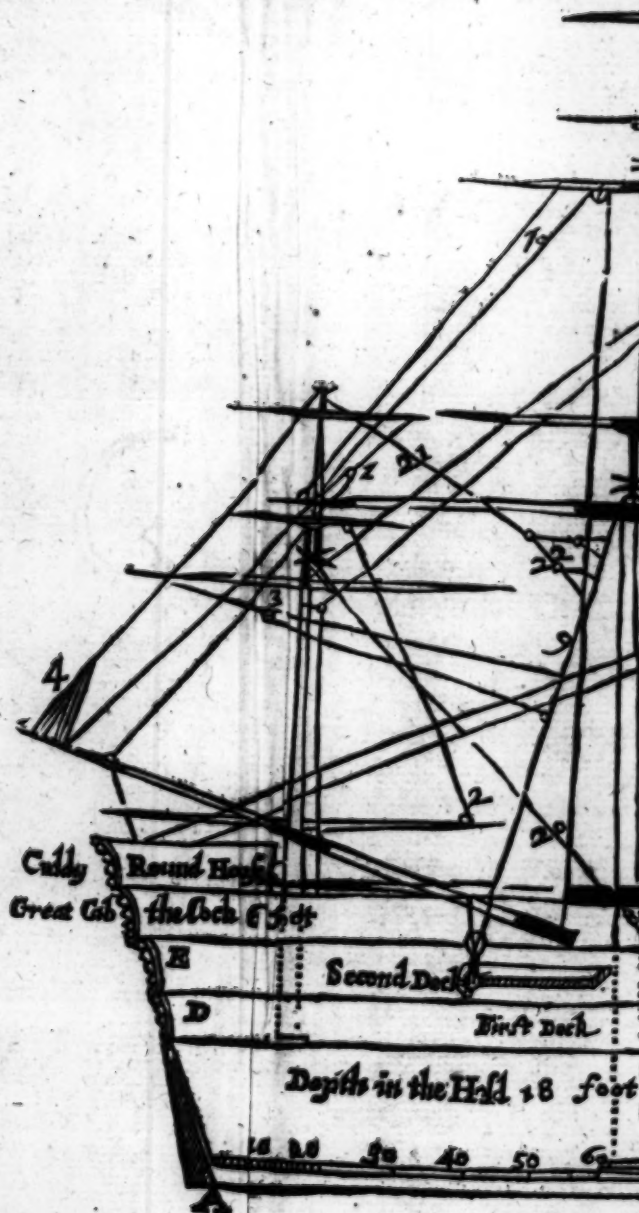
- 1 The miffen top sail Brase.
- 2 The miffen top sail sheat.
- 3 The Cros's jack Brase.
- 4 The toping lift for the miffen peck.
- 5 The main Brase.
- 6 The main top sail Brase.
- 7 The main top sail Clew line.
- 8 The main top gallant Clew line.
- 9 The main shroud or Swifter.
- 10 The main top sail sheat.
- 11 The fore top gallant Brase.
- 12 The fore top gallant Clew line.
- 13 The fore top sail Brase.
- 14 The fore top sail Clew line.
- 15 The fore Brase.
- 16 The sprit sail top sail Brase.
- 17 The sprit sail top sail Clew line.
- 18 The sprit sail top sail sheat. Note that it goeth from the quarter of the sprit sail top sail yards arm to the Sprit sail Yards arm, and back to the Knee at the Boulc Sprits end; and then you must measure from the Boulc sprit to the fore Castle, and that is your length.
- 19 The sprit sail Brase.

The Strays.

- 20 The miffen stay.
- 21 The miffen top mast stay.
- 22 The Leagues of the miffen top may stay.
- 23 The flag staff stay.
- 24 The main top gallant stay.
- 25 The main top mast stay.
- 26 The main stay.

The number 14 serves likewise for the fore top mast stay, and the number 18 serves also for the Legs of the fore top may stay.

- 27 The fore stay.



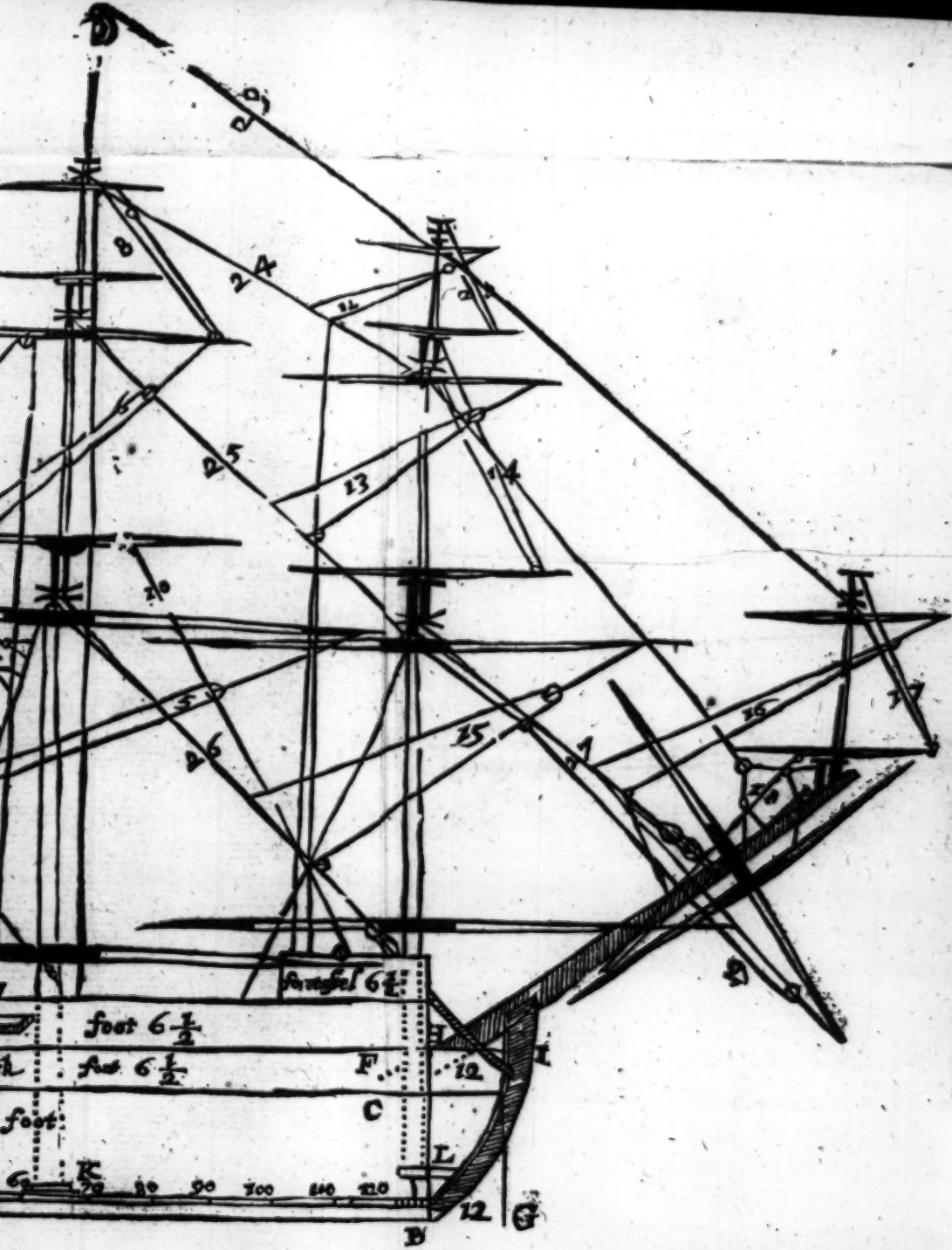
of the 13 Page is shewed the bigness of M.
 of the fourteenth Page is shewed the bigness of
 of the fifteenth Page, is shewed the bigness of
 shewed by the 12 figures the Anchors for such
 shewed by the 12 figures the Cables for such
 shewed the Weight of Cables.
 21 inches to a four-inch Rope.
 shewed the Model of a great Ship, of an hundred
 Keel, and likewise the making of the Scale.
 shewed the 3 small Models.
 That on the top of every Column in the 9, 10, 11,
 Pages, there is a figure too, as thus, 1, 2, 3, 4, 5,
 12, which is to direct you aright to complete a
 in bigness.
 length, the Model gives you that to use, that you
 that your Ship will be well Rigged.
 to your Practice, and wishing you a good Pro-
 your Good as my Credit, I conclude, and rest

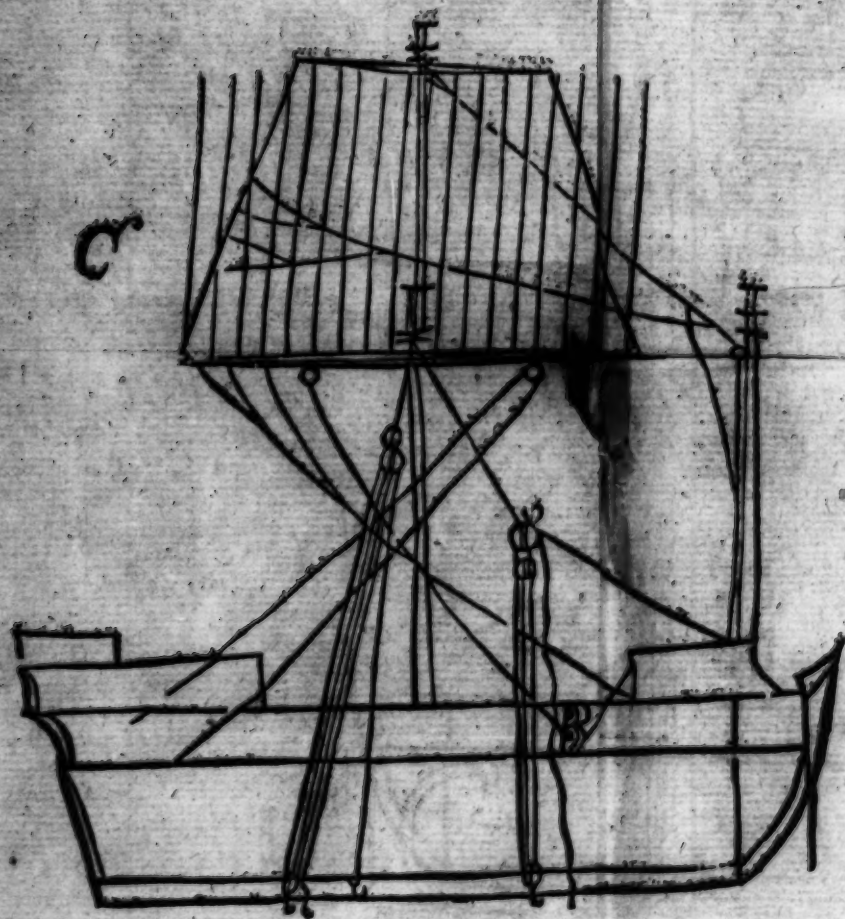
TOWNS

T. M.

FINIS.

The Figure of the SCALE.



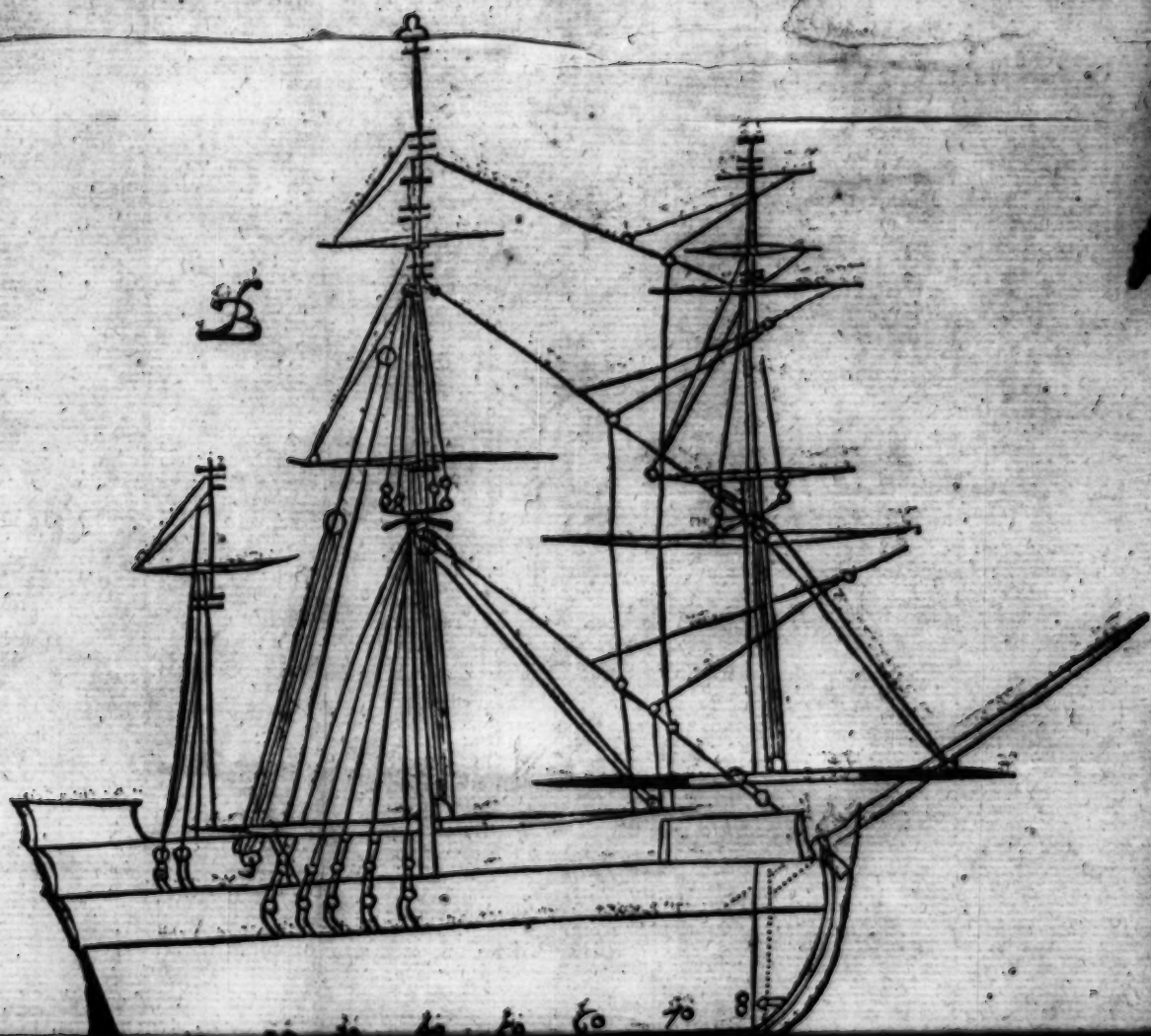


A

C

FIGURE OF THE SCUTTER.





THE HISTORY OF THE SCOTLAND

